

International comparisons of mathematics and science performance of eighth-grade students

The technical and scientific skills of a nation's workers are a crucial component of its economic competitiveness. The recently completed Third International Mathematics and Science Study (TIMSS) assessed the mathematics and science performance of students around the world. By comparing the mathematics and science proficiency of eighth-graders in six wealthy industrialized countries, one can monitor our progress toward meeting the National Education Goal of being first in the world in mathematics and science achievement.

- In 1995, eighth-grade students from the United States scored lower, on average, in mathematics than students in Japan, France, and Canada, and scored about the same as students in Germany and England.
- In science, eighth-grade students from the United States scored higher, on average, than students in France, about the same as students in Canada and Germany, and lower than students in Japan and England.
- Eighth-grade boys and girls in the United States had similar average scores in both mathematics and science. Boys scored higher than girls in mathematics in Japan, and in science in Japan, England, Canada, Germany, and France.
- Mathematics and science proficiency varied widely among students within each country. Moreover, this degree of variation also differed across countries. For example, the difference between the 5th and 95th percentiles for mathematics scores in the United States was less than in Japan, but more than the difference in France. In science, the variation of scores in the United States was greater than in Canada, Japan, and France.

Average mathematics proficiency scores of eighth-grade students, by country and sex: 1995

G-7 country ¹	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Japan	⁵ 605	⁵ 609	⁵ 600	⁵ 435	⁵ 536	⁵ 608	⁵ 676	⁵ 771
France	⁵ 538	⁵ 542	⁵ 536	⁵ 415	⁵ 484	⁵ 534	⁵ 591	⁵ 666
Canada	⁵ 527	⁵ 526	⁵ 530	⁵ 389	⁵ 468	⁵ 527	⁵ 587	⁵ 670
Germany ^{2,3,4}	509	512	509	368	448	506	572	661
England ^{3,4}	506	508	504	361	443	501	570	665
United States ⁴	500	502	497	356	435	494	563	653

Average science proficiency scores of eighth-grade students, by country and sex: 1995

G-7 country ¹	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Japan	⁵ 571	⁵ 579	⁵ 562	⁵ 421	⁵ 514	⁵ 573	⁵ 632	715
England ^{3,4}	⁵ 552	⁵ 562	542	⁵ 380	484	549	625	727
United States ⁴	534	539	530	359	465	537	608	705
Canada	531	537	525	⁵ 380	472	529	594	685
Germany ^{2,3,4}	531	542	524	362	463	535	602	691
France	⁶ 498	⁶ 506	⁶ 490	374	446	⁶ 498	⁶ 553	⁶ 623

¹ Italy did not participate in the survey.

² Germany did not meet international guidelines. See the supplemental note to this indicator for further discussion.

³ More than 10 percent of the population was excluded from testing. See the supplemental note to this indicator for further explanation.

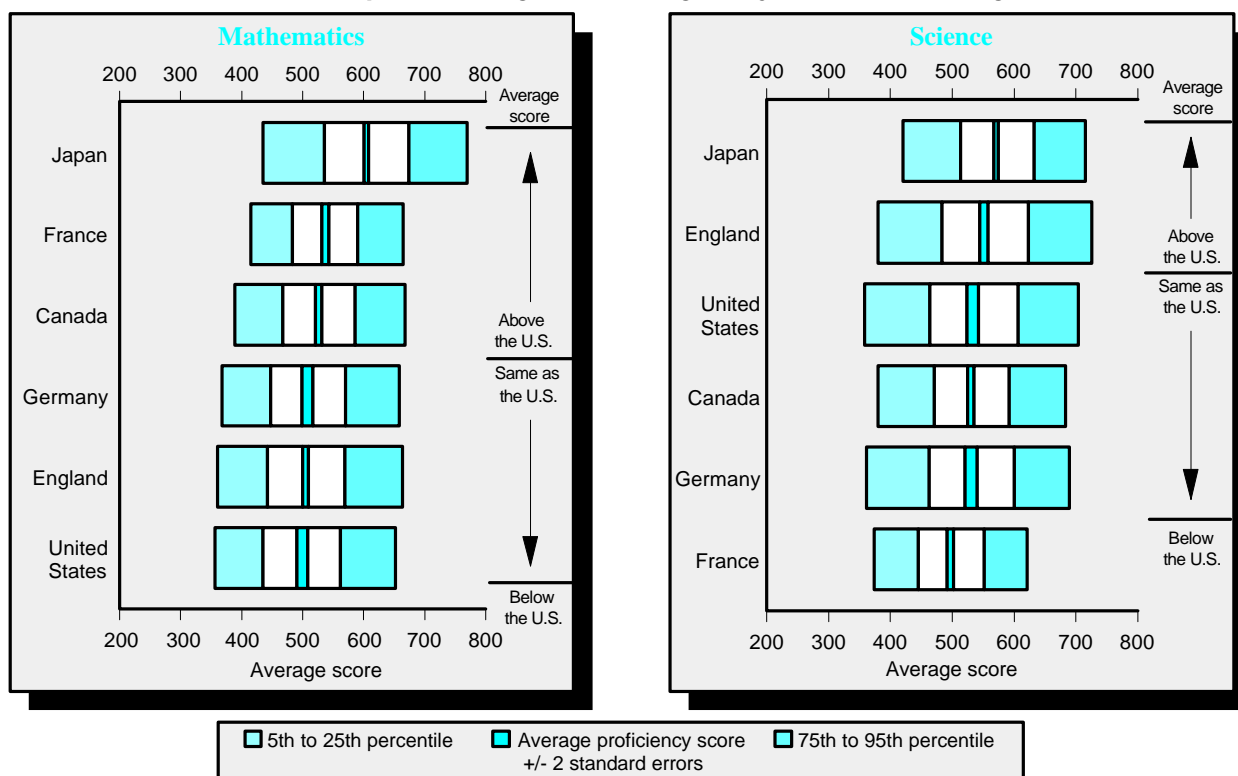
⁴ A participation rate of 75 percent of the schools and students combined was achieved only after replacements for refusals were substituted. See the supplemental note to this indicator for further explanation.

⁵ Significantly higher than the United States at the .05 level.

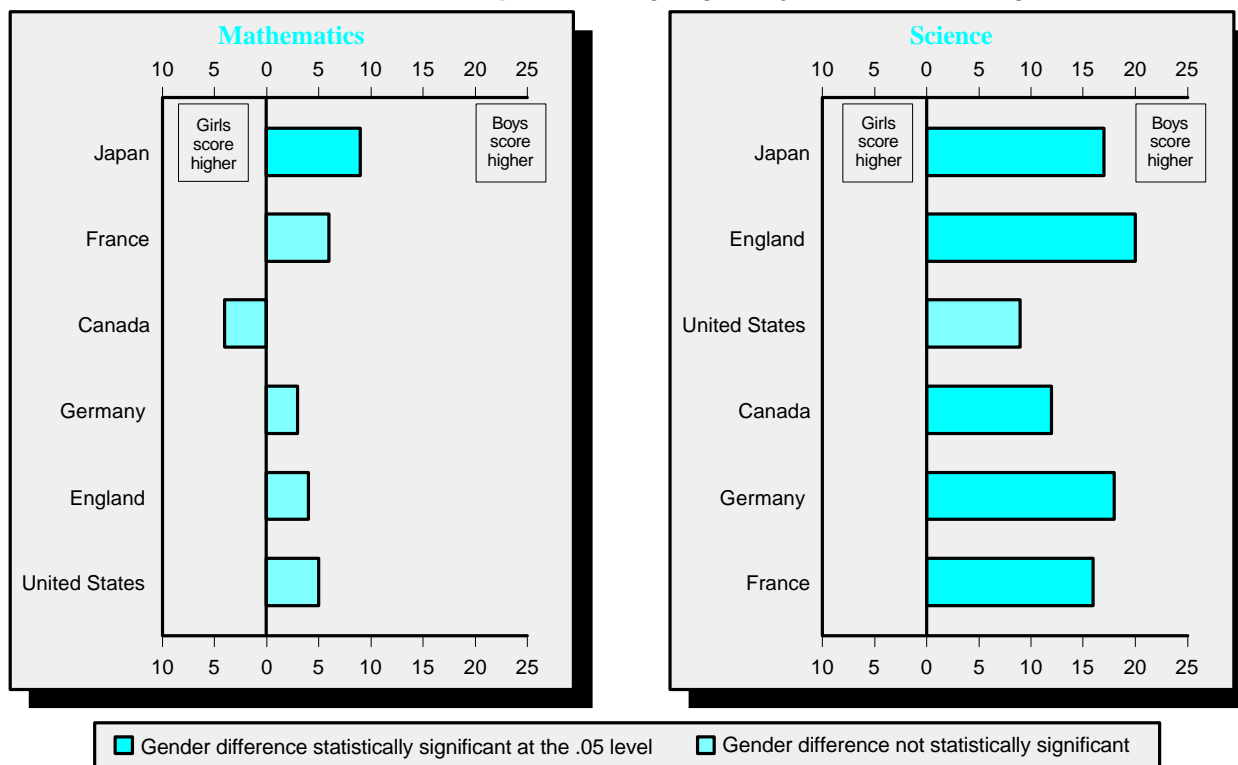
⁶ Significantly lower than the United States at the .05 level.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996.

Distribution of proficiency scores, by subject and country: 1995



Gender differences and proficiency, by subject and country: 1995



SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years*, *Science Achievement in the Middle School Years*, IEA's Third International Mathematics and Science Study, 1996.

Note to Indicator 20: Data collection and sampling guidelines for TIMSS

All countries that participated in the Third International Mathematics and Science Study (TIMSS) were required to administer tests to students representing *Population 2*, defined as “students enrolled in the two adjacent grades that contained the largest proportion of 13-year-old students at the time of testing—seventh- and eighth-grade students in most countries.”

In some situations, where it was not possible to implement testing for the entire International Desired Population (*Population 2*), countries were permitted to define a National Desired Population, which excluded some portion of the International Desired Population. For example, Israel's, Latvia's, and Lithuania's populations covered less than 100 percent of the International Desired Population because they needed to define their population according to the structure of school systems. In the case of Germany and Switzerland, however, some regions simply did not wish to participate in the study.

Country	International Desired Population	
	Coverage	Note on Coverage
Germany	88%	15 of 16 regions
Israel	74%	Hebrew Public Education System
Latvia	51%	Latvian-speaking schools
Lithuania	84%	Lithuanian-speaking schools
Switzerland	86%	22 of 26 cantons

Countries were also permitted to, within their desired population, define a population that excluded a small percentage (less than 10 percent) of schools or students that would be difficult to test (e.g., very small schools or schools located in a remote area). England was the only country that exceeded the 10 percent level, excluding 11.3 percent of schools from the desired population.

The TIMSS used a two-stage sample design, in which the first stage involved selecting 150 public and private schools within each country. Random sampling methods were then used to select one mathematics class and one science class from each school for each grade level (seventh and eighth). The required participation rates from the samples were at least 85 percent of both schools and students or a combined rate of 75 percent.

Compliance with Sampling Guidelines	Countries
<i>Countries satisfying guidelines for sample participation rates, grade selection, and sampling procedures</i>	Canada Cyprus Czech Republic France Hong Kong Hungary Iceland Iran, Islamic Rep. Ireland Japan Korea Latvia Lithuania New Zealand Norway Portugal Russian Federation Singapore Slovak Republic Spain Sweden
<i>Countries satisfying guidelines for sample participation rates, with replacement schools</i>	Belgium (Fl) England Germany United States
<i>Countries not satisfying guidelines for sample participation rates</i>	Australia Austria Belgium (Fr) Bulgaria Netherlands Scotland
<i>Countries not meeting age/grade specifications</i>	Colombia Germany Romania Slovenia
<i>Countries with unapproved sampling procedures at the classroom level</i>	Denmark Greece Israel Kuwait South Africa Thailand

Belgium (Fl), England, Germany, and the United States met sampling guidelines only after including replacement schools for those schools refusing or unable to participate. Australia, Austria, Belgium (Fr), Bulgaria, the Netherlands, and Scotland failed to meet sampling participation standards. These countries either did not reach a 50 percent participation rate without the inclusion of replacement schools, or failed to reach the required rate even with the inclusion of replacement schools.

Four countries (Colombia, Germany, Romania, and Slovenia) chose to test their seventh- and eighth-grade students even though these were not the two

adjacent grade levels with the highest proportion of 13-year-olds. Although this was done in order to increase the similarity of curricula, it resulted in their students being somewhat older than the students from other countries who participated in the study.

Denmark, Greece, Israel, Kuwait, South Africa, and Thailand, for various reasons, had difficulty complying with guidelines for sampling classrooms. Kuwait tested a single grade with relatively few 13-year-olds, and South Africa and Thailand had low sampling participation rates, contributing to additional difficulties.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study (TIMSS)*, 1996.

Average mathematics proficiency scores of eighth-grade students, by country and sex: 1995

G-7 country ¹	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Japan	^b 605	^b 609	^b 600	^b 435	^b 536	^b 608	^b 676	^b 771
France	^b 538	^b 542	^b 536	^b 415	^b 484	^b 534	^b 591	^b 666
Canada	^b 527	^b 526	^b 530	^b 389	^b 468	^b 527	^b 587	^b 670
Germany ^{2,3,4}	509	512	509	368	448	506	572	661
England ^{3,4}	506	508	504	361	443	501	570	665
United States ⁴	500	502	497	356	435	494	563	653

¹ Italy did not participate in the survey.

² Country did not meet international guidelines. See the supplemental note to this indicator for further explanation.

³ More than 10 percent of the population was excluded from testing. See the supplemental note to this indicator for further explanation.

⁴ A participation rate of 75 percent of the schools and students combined was achieved only after replacements were substituted.

See the supplemental note to this indicator for further explanation.

⁵ Significantly higher than the United States at the .05 level.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study (TIMSS)*, 1996.

Average science proficiency scores of eighth-grade students, by country and sex: 1995

G-7 country ¹	Average score			Percentile distribution				
	Total	Boys	Girls	5 ^{'''}	25 ^{'''}	50 ^{'''}	75 ^{'''}	95 ^{'''}
Japan	^b 571	^b 579	^b 562	^b 421	^b 514	^b 573	^b 632	715
England ^{3,4}	^b 552	^b 562	542	^b 380	484	549	625	727
United State:	534	539	530	359	465	537	608	705
Canada	531	537	525	^b 380	472	529	594	685
Germany ^{2,3,4}	531	542	524	362	463	535	602	691
France	^b 498	^b 506	^b 490	374	446	^b 498	^b 553	^b 623

¹ Italy did not participate in the survey.

² Country did not meet international guidelines. See the supplemental note to this indicator for further explanation.

³ More than 10 percent of the population was excluded from testing. See the supplemental note to this indicator for further explanation.

⁴ A participation rate of 75 percent of the schools and students combined was achieved

only after replacements were substituted.

See the supplemental note to this indicator for further explanation.

^a Significantly higher than the United States at the .05 level.

^b Significantly lower than the United States at the .05 level.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study (TIMSS)*, 1996.

Table 20-1 Average mathematics proficiency scores of eighth-grade students, by country and sex: 1995

Country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Singapore	643	642	645	499	584	642	704	792
Korea	607	615	598	418	540	609	682	786
Japan	605	609	600	435	536	608	676	771
Hong Kong	588	597	577	415	526	595	659	742
Belgium (Fl) [*]	565	563	567	416	502	566	631	710
Czech Republic	564	569	558	423	496	558	633	725
Slovak Republic	547	549	545	401	483	543	612	700
Switzerland [~]	545	548	543	401	485	549	607	685
Netherlands [~]	541	545	536	397	477	543	604	688
Slovenia [~]	541	545	537	404	477	535	604	690
Bulgaria [~]	540	—	—	378	460	530	621	728
Austria [~]	539	544	536	393	474	537	608	693
France	538	542	536	415	484	534	591	666
Hungary	537	537	537	391	471	534	602	693
Russian Federation	535	535	536	388	471	536	600	687
Australia [~]	530	527	532	372	460	529	600	690
Canada	527	526	530	389	468	527	587	670
Ireland	527	535	520	381	462	526	594	681
Belgium (Fr) [~]	526	530	524	385	467	532	587	658
Israel [~]	522	539	509	371	459	523	586	672
Thailand [~]	522	517	526	388	462	518	580	669
Sweden	519	520	518	384	460	515	579	661
Germany [~]	509	512	509	368	448	506	572	661
New Zealand	508	512	503	366	443	503	570	663
England [~]	506	508	504	361	443	501	570	665
Norway	503	505	501	372	445	499	560	649
Denmark [~]	502	511	494	369	443	500	561	641
United States [~]	500	502	497	356	435	494	563	653
Scotland [~]	498	506	490	364	436	493	559	649
Latvia (LSS) [~]	493	496	491	375	435	487	550	638
Iceland	487	488	486	365	435	481	540	615
Spain	487	492	483	376	436	481	536	616
Greece [~]	484	490	478	347	422	478	546	633
Romania [~]	482	483	480	343	418	476	544	635
Lithuania [~]	477	477	478	348	422	473	533	616
Cyprus	474	472	475	333	412	469	535	621
Portugal	454	460	449	357	411	449	495	569
Iran, Islamic Rep.	428	434	421	336	388	424	466	535
Kuwait [~]	392	—	—	302	355	389	427	493
Colombia [~]	385	386	384	292	343	379	421	496
South Africa [~]	354	360	349	259	313	347	386	484

— Not available.

^{*} A participation rate of 75 percent or the schools and students combined was achieved

only after replacement for refusals were substituted. See the supplemental note to this indicator for further explanation.

[~] More than 10 percent of the population was excluded from testing. See the supplemental

note to this indicator for further explanation. Latvia is designated LSS because only Latvian-speaking schools were tested.

[~] Countries which did not meet international guidelines. See the supplemental note to this indicator for further explanation.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study, 1996*, tables 1.1, 1.6, and E.1.

Table 20-2 Average science proficiency scores of eighth-grade students, by country and sex: 1995

Country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Singapore	607	612	603	457	541	603	674	768
Czech Republic	574	586	562	438	513	570	634	716
Japan	571	579	562	421	514	573	632	715
Bulgaria [*]	565	—	—	386	488	560	641	747
Korea	565	576	551	408	504	564	629	719
Netherlands [*]	560	570	550	419	505	561	619	701
Slovenia [*]	560	573	548	421	501	556	620	709
Austria [*]	558	566	549	395	499	558	623	721
Hungary	554	563	545	408	497	552	616	703
England ^{***}	552	562	542	380	484	549	625	727
Belgium (Fl) [*]	550	558	543	416	499	548	609	680
Australia [*]	545	550	540	371	475	545	619	720
Slovak Republic	544	552	537	396	484	543	607	696
Ireland	538	544	532	383	471	536	605	694
Russian Federation	538	544	533	386	474	535	606	697
Sweden	535	543	528	386	476	533	598	686
United States [*]	534	539	530	359	465	537	608	705
Canada	531	537	525	380	472	529	594	685
Germany ^{***}	531	542	524	362	463	535	602	691
Norway	527	534	520	385	470	526	588	671
New Zealand	525	538	512	364	458	524	594	692
Thailand [*]	525	524	526	409	479	525	575	646
Israel [*]	524	545	512	356	460	526	591	694
Hong Kong	522	535	507	376	467	524	583	669
Switzerland [*]	522	529	514	371	460	524	587	669
Scotland [*]	517	527	507	357	451	513	584	686
Spain	517	526	508	393	465	514	571	649
France	498	506	490	374	446	498	553	623
Greece [*]	497	505	489	363	439	495	557	643
Iceland	494	501	486	363	442	491	555	623
Romania [*]	486	492	480	321	420	484	556	653
Latvia (LSS) [*]	485	492	478	353	432	482	540	625
Portugal	480	490	468	362	429	477	531	602
Denmark [*]	478	494	463	334	423	477	541	615
Lithuania [*]	476	484	470	346	421	476	533	613
Belgium (Fr) [*]	471	479	463	332	415	472	532	609
Iran, Islamic Rep.	470	477	461	355	422	467	520	592
Cyprus	463	461	465	316	403	462	526	605
Kuwait [*]	430	—	—	316	380	427	484	551
Colombia [*]	411	418	405	291	358	410	467	533
South Africa [*]	326	337	315	185	261	313	376	526

— Not available.

^{*} Countries which did not meet international guidelines. See the supplemental note to this indicator for further explanation.

^{**} More than 10 percent of the population were excluded from testing. See the supplemental note to this indicator for further explanation. Latvia is designated LSS because only Latvian-speaking schools were tested.

^{***} A participation rate of 75 percent of the schools and students combined was achieved only after replacement for refusals were substituted. See the supplemental note to this indicator for further explanation.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study, 1996*, tables 1.1, 1.6, and E.1.

Table S20(a) Standard errors for the first text table in *Indicator 20*

G-7 country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Japan	1.9	2.6	2.1	2.1	6.8	2.5	1.4	4.8
France	2.9	3.1	3.8	5.2	1.4	3.0	2.5	3.4
Canada	2.4	3.2	2.7	3.3	2.0	2.7	2.4	3.7
Germany	4.5	5.1	5.0	8.2	9.4	6.3	7.5	10.9
England	2.6	5.1	3.5	8.8	4.8	3.5	2.7	4.1
United States	4.6	5.2	4.5	3.3	3.4	6.4	8.2	3.7

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years*, IEA's *Third International Mathematics and Science Study*, 1996.

Table S20(b) Standard errors for the second text table in *Indicator 20*

G-7 country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Japan	1.6	2.4	2.0	0.5	4.3	1.5	1.8	1.7
England	3.3	5.6	4.2	2.0	5.2	5.9	4.7	6.7
United State:	4.7	4.9	5.2	6.3	7.7	6.5	5.4	8.6
Canada	2.6	3.1	3.7	3.7	4.2	4.0	3.0	3.8
Germany	4.8	5.9	4.9	9.3	6.6	8.5	4.2	5.5
France	2.5	2.7	3.3	3.9	4.6	3.9	3.1	4.6

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996.

Table S20-1 Standard errors for table 20-1

Country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Singapore	4.9	6.3	5.4	5.8	8.9	7.2	4.5	7.5
Korea	2.4	3.2	3.4	4.0	5.0	3.9	2.7	7.1
Japan	1.9	2.6	2.1	2.1	6.8	2.5	1.4	4.8
Hong Kong	6.5	7.7	7.7	14.2	6.8	5.9	4.9	5.4
Belgium (Fl)	5.7	8.8	7.4	7.7	8.7	8.7	5.7	3.5
Czech Republic	4.9	4.5	6.3	3.5	2.6	7.5	8.5	12.6
Slovak Republic	3.3	3.7	3.6	1.6	0.6	4.4	3.9	2.7
Switzerland	2.8	3.5	3.1	6.3	2.1	6.1	2.9	2.8
Netherlands	6.7	7.8	6.4	10.6	9.1	9.2	7.4	6.9
Slovenia	3.1	3.8	3.3	2.5	3.6	6.7	4.0	4.3
Bulgaria	6.3	—	—	11.4	4.2	10.6	13.8	0.4
Austria	3.0	3.2	4.5	5.1	4.1	5.8	2.6	6.4
France	2.9	3.1	3.8	5.2	1.4	3.0	2.5	3.4
Hungary	3.2	3.6	3.6	2.3	2.1	2.6	2.7	9.2
Russian Federation	5.3	6.3	5.0	4.5	5.6	11.3	8.2	2.9
Australia	4.0	5.1	4.6	4.1	1.5	7.0	7.2	5.4
Canada	2.4	3.2	2.7	3.3	2.0	2.7	2.4	3.7
Ireland	5.1	7.2	6.0	6.5	4.9	8.2	9.6	3.3
Belgium (Fr)	3.4	4.7	3.7	13.8	1.1	5.5	3.7	6.2
Israel	6.2	6.6	6.9	6.3	7.5	9.3	4.9	7.2
Thailand	5.7	5.6	7.0	3.7	4.4	5.9	6.8	12.0
Sweden	3.0	3.6	3.1	2.9	6.0	3.7	3.4	4.7
Germany	4.5	5.1	5.0	8.2	9.4	6.3	7.5	10.9
New Zealand	4.5	5.9	5.3	3.1	4.0	5.0	5.5	9.1
England	2.6	5.1	3.5	8.8	4.8	3.5	2.7	4.1
Norway	2.2	2.8	2.7	5.5	2.0	2.8	3.1	5.9
Denmark	2.8	3.2	3.4	9.8	2.9	4.9	2.2	5.9
United States	4.6	5.2	4.5	3.3	3.4	6.4	8.2	3.7
Scotland	5.5	6.6	5.2	2.1	3.2	7.2	7.1	15.3
Latvia (LSS)	3.1	3.8	3.5	5.2	2.6	3.3	4.3	8.1
Iceland	4.5	5.5	5.6	4.3	3.3	6.2	4.8	21.0
Spain	2.0	2.5	2.6	2.0	2.5	1.8	3.5	3.9
Greece	3.1	3.7	3.1	2.8	1.9	3.8	3.6	6.6
Romania	4.0	4.8	4.0	3.1	3.0	5.5	5.2	9.7
Lithuania	3.5	4.0	4.1	5.0	3.1	5.3	4.3	8.5
Cyprus	1.9	2.8	2.5	3.3	1.2	1.6	3.2	7.3
Portugal	2.5	2.8	2.7	3.0	1.0	2.2	6.7	7.1
Iran, Islamic Rep.	2.2	2.9	3.3	4.4	2.2	2.9	5.8	9.8
Kuwait	2.5	—	—	4.7	3.5	5.0	3.2	6.1
Colombia	3.4	6.9	3.6	5.8	4.4	3.6	6.1	7.5
South Africa	4.4	6.3	4.1	3.7	2.2	2.0	4.9	10.4

— Not available.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Mathematics Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996, tables I.1, I.6, and E.1.

Table S20-2 Standard errors for table 20-2

Country	Average score			Percentile distribution				
	Total	Boys	Girls	5 th	25 th	50 th	75 th	95 th
Singapore	5.5	6.7	7.0	5.2	7.4	7.4	6.5	6.1
Czech Republic	4.3	4.2	5.8	4.9	2.9	5.3	5.1	4.5
Japan	1.6	2.4	2.0	0.5	4.3	1.5	1.8	1.7
Bulgaria	5.3	—	—	5.2	2.0	7.3	4.3	6.9
Korea	1.9	2.7	2.3	1.2	1.8	2.4	4.1	1.4
Netherlands	5.0	6.4	4.9	11.7	9.3	6.0	5.0	8.8
Slovenia	2.5	3.2	3.2	2.9	4.7	4.2	3.6	4.6
Austria	3.7	4.0	4.6	6.0	4.1	3.7	6.0	2.6
Hungary	2.8	3.1	3.4	6.1	5.2	4.2	4.2	2.5
England	3.3	5.6	4.2	2.0	5.2	5.9	4.7	6.7
Belgium (Fl)	4.2	6.0	5.8	5.3	6.6	4.9	4.5	1.4
Australia	3.9	5.2	4.1	6.6	4.6	6.5	3.9	1.4
Slovak Republic	3.2	3.5	3.9	7.1	8.8	5.6	4.3	2.3
Ireland	4.5	6.6	5.2	2.6	10.1	5.0	4.9	1.9
Russian Federation	4.0	4.9	3.7	8.5	8.1	5.3	3.6	8.0
Sweden	3.0	3.4	3.4	5.5	6.2	5.2	4.1	1.7
United States	4.7	4.9	5.2	6.3	7.7	6.5	5.4	8.6
Canada	2.6	3.1	3.7	3.7	4.2	4.0	3.0	3.8
Germany	4.8	5.9	4.9	9.3	6.6	8.5	4.2	5.5
Norway	1.9	3.2	2.0	3.8	1.9	3.0	1.9	4.7
New Zealand	4.4	5.4	5.2	6.9	6.3	5.5	3.6	3.7
Thailand	3.7	3.9	4.3	2.3	4.5	5.6	4.8	4.2
Israel	5.7	6.4	6.1	14.7	9.1	10.4	5.3	11.1
Hong Kong	4.7	5.5	5.1	10.6	7.1	7.2	4.1	1.4
Switzerland	2.5	3.2	3.0	3.9	5.2	4.9	4.6	0.9
Scotland	5.1	6.4	4.7	7.7	4.3	6.7	6.3	6.2
Spain	1.7	2.1	2.3	4.0	1.7	2.9	3.1	3.3
France	2.5	2.7	3.3	3.9	4.6	3.9	3.1	4.6
Greece	2.2	2.6	3.1	3.8	2.3	2.2	3.0	1.4
Iceland	4.0	5.1	4.6	0.6	5.3	3.8	6.9	14.7
Romania	4.7	5.3	5.0	3.8	8.5	5.2	6.7	6.6
Latvia (LSS)	2.7	3.3	3.2	4.4	5.4	2.4	3.0	6.5
Portugal	2.3	2.8	2.7	4.4	1.1	1.4	2.1	5.3
Denmark	3.1	3.6	3.9	5.4	3.8	3.6	3.2	3.0
Lithuania	3.4	3.8	4.0	2.7	8.5	5.8	3.1	5.3
Belgium (Fr)	2.8	4.8	2.9	5.4	3.9	5.3	4.5	5.7
Iran, Islamic Rep.	2.4	3.8	3.2	4.3	2.5	2.8	2.3	6.8
Cyprus	1.9	2.2	2.7	1.4	2.8	3.0	2.9	4.2
Kuwait	3.7	—	—	7.1	5.4	3.4	4.9	2.7
Colombia	4.1	7.3	4.6	8.3	6.4	5.8	8.8	2.6
South Africa	6.6	9.5	6.0	2.8	4.7	3.6	9.2	15.3

— Not available.

SOURCE: International Association for the Evaluation of Educational Achievement, TIMSS International Study Center, *Science Achievement in the Middle School Years, IEA's Third International Mathematics and Science Study*, 1996, tables I.1, I.6, and E.1.